

## **American Chestnut Tree Conservation Field Course Syllabus**

### **Antinanco Earth Arts School**

*Fall 2021*

Contact Hours: 30 Hours (to qualify for up to 2 academic credits)

Instructors: Mariya Chechina, Ph.D., Yannick Neveux, M.Sc.

This Program is designed for:

- Undergraduate and graduate students looking to receive academic credit in environmental studies and sustainable management in natural resources, with a special emphasis on conservation of native plants, specifically the American chestnut tree.

### **Overview and Course Description:**

During the Program, students will get full academic and experiential immersion in morphological, ecological and phenological traits used in field identification of woody plants. The course will stimulate students' curiosity about woody plant vegetation in the Northeastern American ecosystem, focusing on the American chestnut species and their companions, and allow to gain an appreciation of its uses by wildlife and people. The course is offered in the format of four 5 to 6 -hour field and lab sessions, and 8 hours of online instruction. The course offers 30 contact hours to qualify for up to 2 academic credits. The course is taught by Ph.D. and M.Sc. level professors and restoration experts. Extensive field-study instruction is included to provide students with immersive hands-on experiences.

### **Location:**

22 hours of the course will be taking place at the Antinanco Earth Arts School' American Chestnut Tree planting locations in Bangor and Bath, PA. The remaining 8 hours will be in the form of online instruction.

### **What Students Will Study:**

The program allows students to explore topics on using ecological principles to manage ecosystems. Students will learn to recognize forest disturbances (natural and introduced), recognize forest age, learn to identify dominant and understory species, learn the principles of basic tree identification, measure biological diversity, tree growth and tree health. The course will specifically focus on the conservation of the American Chestnut Tree species. Students will learn about American chestnut tree's ecological history and distribution, favorable soil conditions, companion plants and animals that depend on and disperse the chestnut, major disturbances (natural and introduced) that impacted the chestnut distribution and ultimate disappearance.

The fieldwork component includes visits to forest patches to examine disturbances, species identification, examine soil pH and humidity, conduct forest transects, collect, propagate and care for American chestnut seeds, seedlings and trees.

The online and lab components include instruction on labeling, pressing and examining leaves of different species under a microscope, making an identification key, recording field data and taking measurements with measuring tape, DBH tape and compass, calculating tree basal area and tree density, test soil pH.

Students will work with pH meters and pH strips, rope, compass, measuring tape, leaf press, and microscopes in the field to practice the theory that they learned during the online component.

### **Contact Hours**

30 hours (to qualify for up to 2 academic credits)

### **Dates:**

**Thur, Sept. 16th 6-8pm, online session (introduction and theory for sessions 1 and 2)**

**Sat, Sept. 18th 11am – 4pm, Bangor, PA**

**Sun, Sept 19th – 11am -4pm, Bangor, PA**

**Thur, Sept 23rd – 6-8pm, online session (introduction and theory for sessions 3 and 4)**

**Sat, Sept 25th – 10am -4pm – Bath, PA**

**Sun, Sept 26th<sup>h</sup> – 10am – 4pm Bath, PA**

**Thur, Sept 30<sup>th</sup>, 6-8pm – online session (summary and concluding remarks)**

**Tue, Oct 5<sup>th</sup> 6-8pm – online session (student presentations)**

### **Prerequisites**

Introductory university level courses in environmental sciences, enjoy the outdoors and be moderately fit for hikes and field work. Have a mode of transport to get to field locations and a computer with internet to connect to online sessions.

### **Method of Presentation**

- Lectures
- Discussions
- Student presentations
- Group work
- Field studies
- Journaling
- Lab work
- Online follow up discussions
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### **Required Work and Form of Assessment**

- Class participation – 40%
- Student Presentations – 10%
- Course-Related Field Journals – 30%
- Final Report – 20%

## **Learning Outcomes**

By the end of the course students will be able to:

- Identify and describe ecosystem components, functional roles and integration.
- Know and be able to list characteristics to distinguish woody plant families and genera.
- Know the scientific and common names of each plant studied in laboratory, and able to identify each plant either by fruit, cone, leaf, twig, bark, habit or any combination of these or other characteristics.
- Become familiar with the basic ecology and range for the American chestnut tree and its companions.
- Gain in-depth understanding on planting and caring for the American chestnut tree, to improve its chances of survival.
- Attain working knowledge on collecting relevant data to measure the species' health and growth, as well as recording data and compiling reports.
- Give a presentation (15 min.) based on a compiled report.

## **Required Reading**

- The American Chestnut Tree Conservation Field Course Manual, M Chechina
- American Chestnut, The Life, Death and Rebirth of a Perfect Tree, Susan Freinkel

**Course Fee: \$600**

**Application Fee (non-refundable): \$40**

## **Scholarships and Financial Considerations**

Students can apply for scholarships directly through Antinanco Earth Arts School. Awards are made based on need and/or merit and typically range from \$50 to \$200. Students may begin the [scholarship application](#) process while your application is under review. Scholarship applications are accepted on a rolling basis and will continue to be reviewed while funds remain available.

## **Academic Credit**

The Program offers 30 contact hours that can be applied to qualify for up to 2 academic credits with students' schools. Antinanco Earth Arts School welcomes the opportunity to work cooperatively with schools seeking to grant academic credit for study abroad and internships. Students are encouraged to initiate arrangements for credit with their colleges and universities. Antinanco Earth Arts School does not grant academic credit.

## **Additional Highlights**

- Collaborations with site managers and Antinanco team.

- Participation in public planting events that will include educational presentations, opening ceremonies, music and potlucks.
- Hiking through the planting sites' grounds to search for native American Chestnut Tree species in the wild.